

REMARKS

1. **Regarding objection to the drawings:** The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of claim 1: “a flexible member connecting the magnetic field source and the magnetic field sensor such that when a force is applied to the flexible member the relative position of the magnetic field sensor with respect to the magnetic field source is changed in a direction of the force by a distance proportional to the force” must be shown or the feature(s) cancelled from the claim(s).

Response:

The recitation relating to the flexible member in claim 1 is amended as detailed below in order to overcome the objections set forth on page 2 of the above identified Office action. Reconsideration of the drawings in light of the amended claim 1 is politely requested.

2. **Regarding objection to the specification:** The specification is objected to as failing to provide a proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP 608.01(o). Correction of the following is required: The limitation of claim 1: “a flexible member connecting the magnetic field source and the magnetic field sensor such that when a force is applied to the flexible member the relative position of the magnetic field sensor with respect to the magnetic field source is changed in a direction of the force by a distance proportional to the force” was not described in the specification.

Response:

The recitation relating to the flexible member in claim 1 is amended in order to overcome the objections set forth on page 2 of the above identified Office action, to more accurately relate the pointing device described in the

specification. More specifically, the recitation relating to the flexible member in claim 1 is amended to read:

5 "a flexible member for allowing and controlling a relative movement of the magnetic field source and the magnetic field sensor, the flexible member and magnetic field source forming a critically dampened system such that when a force is applied to an end of the flexible member the relative position of the magnetic field sensor with respect to the magnetic field source is changed in a direction of the force by a distance proportional to the force".

10 The Applicant believes that this amendment removes any notion that the flexible member in the preferred embodiment directly connects the magnetic field source and the magnetic field sensor, and as well as clearly reciting the purpose of said flexible member, it also includes a limitation referring to the flexible member as part of a critically dampened system, thus under-pinning a key feature of the instant invention, i.e. that it translates force applied by a user
15 via said critically dampened system and not via a direct mechanical linkage, as will be related in detail later in this discussion. Support for the amendment can be found in the specification in paragraph 0028, wherein the relative positions of the claimed items are recited, the description being further supported by Fig.4.

20 It can be seen that both the magnetic field source and the magnetic field sensor are fixed indirectly to the body of the claimed invention, the magnetic field sensor somewhat rigidly via the circuit [para.0028, lines 2-4], and the magnetic field source via the flexible member [para.0028, lines 10-15], this having the properties described [para.0028, lines 15-19] and therefore controlling the relative movement between the above mentioned elements as
25 claimed. Reconsideration of the specification in light of the amended claim 1 is politely requested.

Additionally, the clause of claim 1 relating to a magnetic field source is amended in the interests of clarity, being amended to read:

30 "a magnetic field source for generating a magnetic field having a direction relative to a measurement location and a magnitude proportional to a distance between the magnetic field source and the measurement location".

Support for the additional amendment can be found in the specification in

paragraphs 0029 & 0030, the description therein being further supported by Figs. 5 & 6.

3. **Regarding claim rejections under 35 USC 103:** Claims 1-6, & 8-10 are
5 rejected under 35 U.S.C. 103(a).

3.1 Claims 1-3, 6, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Arita et al. (US Patent No. 5,432,530) in view of Jackson (US Patent No.
6,611,139B1).
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Response:

The Applicant notes the Examiners observations regarding the cited arts and
the claimed invention, but finds as described below, that in each of the prior arts
15 different principles of operation are in play and a flexible member, where used,
is both utilized for a different purpose and is of a different nature to that used in
the claimed invention.

As to claim 1, the language of claim 1 is amended to overcome the
Examiner's objections as described above, and as an additional result can no
20 longer be construed as reflecting the teachings of Jackson, US Patent No.
6,611,139B1 (hereinafter referred to as Jackson), i.e. "a flexible member
connecting the magnetic field source and the magnetic field sensor such that
when a force is applied to the flexible member the relative position of the
magnetic field sensor with respect to the magnetic field source is changed in a
25 direction of the force by a distance proportional to the force", notwithstanding
that Jackson teaches the use of flexible members as simple return springs, these
being incidental to the relative movement of the magnetic field sensor with
respect to the magnetic field source. However, in the interests of clarifying the
significance of said changes and other pertinent factors with regard to the above
30 detailed rejections, the following discussion is included.

In both the pointing devices of Arita et al., US Patent No. 5,432,530
(hereinafter referred to as Arita) and Jackson, a two-part arrangement is utilized,

whereby a magnetic source or magnetic field sensor is fixed rigidly to the body of the device, and a counterpart magnetic source or magnetic field sensor, as appropriate, is moved in relation to the fixed element, itself being fixed or linked to a moveable part which is manipulated by a user. In the case of Arita, the user moveable part is an eyeball type arrangement and thus the base of the pointing device is intended to remain static in use. In the case of Jackson, the user moveable part is an upper portion of the pointing device housing which is allowed to move independently of the base of the housing within certain limits, thus also meaning that the base of the pointing device is intended to remain static in use. Flexible members, where used in Jackson's invention are, as mentioned above, utilized as return springs to return the user moveable portion of the pointing device housing back to a datum position. Furthermore, Jackson teaches the use of springs and not the use of damped springs, in no way mentioning the importance of critical damping to the springing arrangement of the upper portion of the pointing device housing of the cited invention.

The claimed invention, however, in so far as the relative movement of the magnetic field source and the magnetic field sensor in the preferred embodiment is concerned, does not rely upon the above mentioned two-part arrangement. As discussed in section 2 above, in a preferred embodiment both the magnetic field source and the magnetic field sensor are fixed indirectly to the body of the claimed invention, the magnetic field sensor via the circuit and the magnetic field source via the flexible member. Hence, relative movement between the magnetic field source and the magnetic field sensor is caused by movement, or more precisely by acceleration, of the pointing device body in toto as described in the specification [para.0029 and Fig.5 refer], the inertia of the magnetic field source causing relative movement which is in turn controlled by the flexible member, and not more directly by a user moveable part as in both cited prior arts. In order to recite more clearly this distinguishing feature of the instant invention in the base claim, claim 1 is amended, the nature of the flexible member being recited in an additional limitation (as detailed in section 2 above), i.e. that: "the flexible member and magnetic field source forming a critically damped system", the importance of critical damping being stated in the specification

[para.0028, lines 15-19 refer].

5 As both Arita and Jackson teach the use of so-called two part arrangements as described above, and neither teach the use of a damped flexible member to allow and control relative movement between the magnetic field source and the magnetic field sensor, the Applicant asserts that the instant invention device could not be realized using the teachings of the cited arts.

In light of the above discussion and amendments, consideration of the amended claim 1 is politely requested.

10 As to claims 2, 3, 6, 8 & 10: Being additional limitations dependent upon the amended claim 1, claims 2, 3, 6, 8 & 10 should be allowable if the amended claim 1 is considered to be allowable.

15 3.2 Claims 4, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arita et al. and Jackson in view of Sava et al. (US Patent No. 4,459,578).

Response:

20 As to claims 4 and 9: The aforementioned claims are additional limitations dependent upon the amended claim 1, and hence should be allowable if the amended claim 1 is considered to be allowable.

25 3.3 Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arita et al. and Jackson in view of Clymer et al. (US Patent No. 5,525,901).

Response:

30 As to claim 5: The aforementioned claim is an additional limitation dependent upon the amended claim 1, and hence should be allowable if the amended claim 1 is considered to be allowable.

4. **Regarding changes to the claim structure:** Claims 3-5 are amended to reflect changes to the claim structure, as it is not necessary for these claims to be dependent upon claim 2.

5 5. **Regarding new claims 11-15:** New claims 11-15 are included as additional limitations dependent upon the amended claim 1, and recite details of key device elements and their relationships. Additionally, in order to include all relevant elements in the base claim, **claim 1 is further amended** to recite "a body".

10 Support for the new claims can be found in the specification as detailed below:

Claim 11: In paragraph 0029, lines 1-5.

Claim 12: In paragraph 0028, lines 15-19 in conjunction with paragraph 0039, lines 10-12, reciting an alternative embodiment.

Claim 13: In paragraph 0028, lines 12-17.

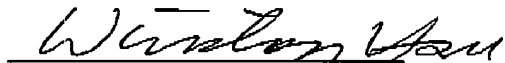
15 Claim 14: In paragraph 0028, in conjunction with paragraph 0039, lines 10-12, reciting an alternative embodiment.

No new matter is introduced by the above detailed amendments. Consideration of said amendments and discussion herein is respectfully requested.

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Sincerely,

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